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ABSTRACT

The poor pay more than the non-poor for similar products in many consumer goods markets. This disparity seems not to be addressed by consumer protection regulations like disclosure laws. Several lines of argument suggest that the poor will not benefit from disclosure regulation either because they lack the ability to use information effectively ("market irrationality") or because they are restricted to particularly flawed markets and products ("separate markets/ products"). This paper examines income stratification in the used car market in Wisconsin, Iowa, and Minnesota. It was found that the poor do pay more for used cars, get less redress for defects discovered after purchase, and are less satisfied and more likely to believe something was misrepresented. However, no evidence was found that price discrimination resulted from "market irrationality" of the poor or their restriction to separate markets and products. Furthermore, the adoption of disclosure regulation in Wisconsin did not increase or decrease price discrimination against the poor. These findings point to the need for more research on the causes of price discrimination and for more attention to the problems of the poor in the design and implementation of consumer protection regulations. (Author/GC)

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MARKET DISCRIMINATION AGAINST THE POOR AND THE IMPACT OF CONSUMER DISCLOSURE LAWS: THE USED CAR INDUSTRY

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ABSTRACT

The poor pay more than the non-poor for similar products in many consumer goods markets and this disparity seems not to be addressed by consumer protection regulation like disclosure laws. Indeed, several lines of argument suggest that the poor will not benefit from disclosure regulation either because they lack the ability to use information effectively ("market irrationality") or because they are restricted to particularly flawed markets and products ("separate markets/products").

This paper examines income stratification in the used car markets in Wisconsin, Iowa, and Minnesota. We find that the poor do pay more for used cars, get less redress for defects discovered after purchase, and were less satisfied and more likely to believe something was misrepresented. However, no evidence was found that price discrimination resulted from "market irrationality" of the poor or their restriction to separate markets and products. Furthermore, the adoption of disclosure regulation in Wisconsin did not increase or decrease price discrimination against the poor. These findings point to the need for more research on the causes of price discrimination and for more attention to the problems of the poor in the design and implementation of consumer protection regulations.

Market Discrimination Against the Poor and the Impact of Consumer Disclosure Laws: The Used Car Industry

Although the purpose of increasing market regulation is assumed to be increased protection for buyers, critics of consumer disclosure laws argue that this particular regulatory approach to consumer protection will not benefit poorer consumers. The disclosure approach is said to work by correcting the failure of markets to give sellers adequate incentives to produce product information needed for consumers to exercise rational choice. The critics of disclosure as a strategy to help the poor have two general arguments for its ineffectiveness: poor consumers lack the ability to use the information that it provides and/or the markets in which the poor purchase are so flawed that information alone cannot correct their deficiencies.

If these critics are correct, there are two possible problems with disclosure laws viewed as a social policy aimed at benefiting the poor. At the very least, disclosure may fail to deal with a serious defect in consumer markets: evidence suggests that poor consumers pay more than non-poor purchasers even for similar products (Caplovitz, 1967; Feldman, 1976, pp. 230-241). If this is true, and if disclosure laws fail to provide special benefits for the poor, then whatever other merit this approach to consumer protection may have, it will make no contribution to ameliorating this problem.

Moreoever, the disclosure strategy could potentially worsen the situation of the poor. If disclosure laws do work for some consumers, they will effectively increase the purchasing power of these buyers. But if income-related differences in buyers' behavior or markets and products are

such that the poor receive no benefits from disclosure laws while the non-poor secure improved purchasing power, then the adoption of a general disclosure approach would increase the disadvantages of the poor.

This paper examines income stratification in the classic stereotype of consumer fraud in America--the sale of used cars. Not only does this represent a market where information on defects should be crucial in increasing the purchasing power of the buyer, but it is a market upon which low-income consumers particularly depend. For most low-income families, the used car is not only necessary to get them to jobs, but next to housing it is the most expensive purchase they make. Any special purchasing power advantage--either in purchase price or in post-purchase dispute resolution--of the non-poor becomes particularly detrimental to the poor as they increasingly compete with middle-income consumers who are turning to the used car market as the prices of new cars escalate. The question is whether an information disclosure law will actually provide special benefits to the poor by reducing disparity in purchasing power. The Federal Trade Commission is considering just such a regulation for used car sales (Auto News, June 12, 1978:1).

This study examines several questions concerning market discrimination against the poor and the impact of a consumer disclosure law in the used car industry:

(1) Do the poor in fact pay more for the same used car value and get less redress for defects discovered after purchase?

(2) Can such disparities in purchasing power across income groups be explained by deficient "market rationality" among the poor such as less ability to use information?

(3) Can such disparities be explained by characteristics of markets or products used disproportionately by low-income consumers?

(4) Does a disclosure law affect such disparity?

We conclude that the poor do pay more for used cars, that the adoption of disclosure regulation does not eliminate this price discrimination effect, and that the poor get less redress for defects discovered after purchase. At the same time, there was no evidence to support the hypotheses that price discrimination is caused by different market abilities or behavior of the poor or by the poor buying in separate sub-markets. While a disclosure law did not narrow the disparity between the purchasing power of the poor and the non-poor, neither did it enlarge it.

While the critics of unregulated markets are correct in alleging price discrimination against the poor, the reasons given for this effect could not be confirmed. Disclosure laws appear not to reduce this discrimination, but we cannot attribute this failure to the causes normally cited. As a result, while recognizing that consumer protection (designed in part to eliminate price discrimination and thus to especially benefit the poor) must go beyond disclosure, further research is needed before policy makers can design regulatory strategies that will simultaneously correct general market failures and eliminate discrimination against the poor.

1. DISCLOSURE AND EXPLANATIONS OF DISADVANTAGES OF THE LOW-INCOME CONSUMER

Proponents of the disclosure strategy argue that buyers in many unregulated markets suffer from reduced purchasing power because they lack sufficient information to "rationally" maximize their purchasing power or value

received (Barton, 1976). In the case of used cars, many buyers lack reliable information about the mechanical condition or prior history of the product. This makes it more difficult for the buyer to negotiate an appropriate price. When sellers are required to "disclose" defects, the increased information is then assumed to improve the product value received for the same price. Further, complaint resolution should be facilitated when sellers provide a statement of condition at time of sale.

The assumption that increased information will enhance purchasing power of the consumer is found in such legislation as truth-in-lending and truth-in-packaging laws and the Magnuson-Moss Warranty Act. The popularity of disclosure as a legislative response to the consumer movement is largely due to its legal attribute of not infringing upon freedom-of-contract values. Since the disclosure strategy still assumes that consensual bargains in the marketplace can set the proper price for a transaction, it claims to protect the consumer without involving substantive governmental intervention in the market (Whitford, 1973; Mayer and Nicosia, 1976, p.65).[1]

Whatever the merits of disclosure laws for consumers in general, some writers have argued that the disclosure strategy is an insufficient response to income stratification in purchasing power. Several clusters of hypotheses suggest that low-income consumers have relatively less purchasing power--both in terms of price paid relative to "real value" and of complaint resolution. Further, the hypothesized mechanisms generating these income disparities are not addressed by the disclosure strategy. We have characterized these arguments as the "market rationality" theme and the "different products and/or markets" effect.

The Poor Have Less "Market Rationality"

Micro-economic theory suggests that consumers have more "purchasing power" if they act in a certain "market rational" manner. Buyers should accurately evaluate product quality before purchase to assess its "value" to them and then negotiate a "fair" price. Further, market self-policing is promoted if the buyer reacts to a bad value with subjective dissatisfaction and attempts to impose costs upon the seller by voicing complaints and seeking redress (Hirschman, 1970).

Income stratification in purchasing power may then be related to characteristics of the poor which limit their effective "market rationality." The poor, it is argued, are disadvantaged to the extent they are less able to obtain or use information about product quality or the terms of purchase, less able to bargain or to complain effectively, and more complacent about purchase problems (Andreason and Best, 1977). These disadvantaging characteristics of the poor are usually attributed to economic and social constraints on the low-income buyer.

For example, information acquisition and use may be hindered by lower educational attainment and less ability to sustain search costs. Credit availability and "status-seeking and escapism" may heavily influence their choices (Schnapper, 1967). Dispute resolution for the poor is hampered by greater constraints on their time and resources and less practical opportunities to utilize legal or personal remedies. The belief that complaining would do no good, self-blame for being deceived, or simply an inability to sacrifice some working hours have been cited to explain depressed rates of complaint voicing by the poor (Caplovitz, 1967, p. 111).

The poor face many more problems in using the legal system for protection (Wexler, 1970) and are less aware of available agents of redress (Levine and Preston, 1970, p.89; Steele, 1975).

Taken as a whole, these hypothesized constraints and attributes of low-income consumers would seem to invalidate an information disclosure strategy. If the poor do not act in a market rational manner, their purchasing power would not be enhanced by improved information (Schnapper, 1967). Indeed, if the non-poor benefited disproportionately, the income disparities in purchasing power would increase. However, it is possible that disclosure regulation could manipulate the timing and method of disclosure so as to increase the awareness and aggressiveness of the low-income buyer (Whitford, 1973, pp. 461-462, 467).

If a disparity in market rationality in fact explains any income disparities in purchasing power, certain differences in the behavior and attitudes of poor and non-poor consumers would be expected. With respect to our data on used car experiences, this market rationality argument suggests that the poor would be less aware of defects in cars before purchase, more likely to discover defects after purchase, less dissatisfied, and more reluctant to complain about defects. Before testing these possibilities, the implications of the other arguments put forward by skeptics of disclosure law are outlined.

Different Markets and Products for the Poor

The poor may be disadvantaged by both disproportionate participation in certain markets and by the product selection which their limited financial resources dictate. Product markets are often segmented along

income lines to some degree by residential segregation of income groups, available credit, and so on. Markets in which the poor are concentrated typically sell cheaper, lower quality goods, may be less competitive, and have more marginal and less scrupulous sellers (Schnapper, 1967). These market characteristics would then generate income disparities in both the terms of exchange and dispute resolution. Such patterns have been observed in product areas like retail food and credit markets. Thus the poor may not be different in the rationality of their purchase transactions, but rather face different and discriminatory market constraints (Andreason, 1975, pp. 36-54).

Our data do not measure all of the key dimensions of market segmentation in the used car industry. However, one fundamental dimension is the dealer versus private seller distinction. Since the dealer market sells newer and more expensive cars, we might expect low-income buyers to purchase disproportionately in the private market where vehicles are older and cheaper and redress in case of dispute is much more difficult.

Aside from possible variation in the quality of goods across income-segmented markets, the poor are constrained by their income to purchase less expensive goods in general. Thus, even if value-per-dollar is not related to income, there remains a fundamental income-based stratification in the distribution of consumer goods and their attendant pleasures and problems. This inherent consumption disadvantage of the poor is rooted in the market system for distributing consumer goods and is of a different nature than the income disparities we have thus far addressed: situations of unequal value-per-dollar. Since product characteristics may thus account for income differences in consumers'

experiences, it is necessary to control for the price and quality of the products in order to demonstrate price and dispute resolution discrimination against the poor.

2. METHODOLOGY

Research Design

The data used in this investigation were collected in conjunction with a study on disclosure in the retail used motor vehicle market conducted by the Center for Public Representation (CPR) for the Federal Trade Commission (Nevin and Trubek, 1977). That study utilized a combination trend and cross-sectional design. The trend design measured the experiences of Wisconsin's consumers before and after a disclosure law went into effect. The cross-sectional design involved measuring the used car purchasing behavior of consumers in three states with different types of regulatory systems in the time period after the implementation of the Wisconsin law.[2] Iowa and Minnesota were selected for comparison to Wisconsin because of their geographical proximity and the unique aspects of their regulatory systems.

Wisconsin has required mandatory disclosure and safety item repair for all dealers since October 1974. The private market in Wisconsin is unregulated with respect to disclosure and safety repairs. Iowa requires that every motor vehicle pass a safety inspection before operational title can be passed. Hence, Iowa has mandatory safety inspection for all vehicles (whether sold by dealers or private parties) but no disclosure of general mechanical condition as in Wisconsin. Minnesota provides an interesting

third situation because it requires neither dealer disclosure nor any kind of safety inspection.

Sampling

Both the trend and cross-sectional designs involved the use of a mail survey. A systematic sample of approximately 1100 to 1500 names and addresses were selected from each of the four market populations of consumers who had purchased a used motor vehicle. The Wisconsin pre-law and post-law samples were drawn from purchasers of used cars in the two years preceding and following the Wisconsin disclosure law's implementation. The Iowa and Minnesota samples were drawn from the same two-year period as the Wisconsin post-law sample.

Because approximately 75% of consumers sampled did not respond, two procedures were used to test for nonresponse bias. First, sample estimates were compared to known parameters of the Wisconsin post-law population: vehicle ages and the proportion of private versus dealer sales. Older used motor vehicles and private sales were somewhat, but not seriously, under-repesented. Second, a telephone sampling of fifty nonrespondents from each of the four consumer populations asked a select number of questions from the original questionnaire. The distribution of nonrespondents' answers, when compared with the respondents' patterns, indicated that the former group did not significantly deviate from the initial respondents' experiences. The respondents seem to be representative of the population sampled.

Measures

The dependent variables include measures of consumers' purchasing power or success and of their experiences and behavior. Independent explanatory variables included two product characteristics (purchase

price and car age), two market structure characteristics (the state and private/dealer markets), and three buyer characteristics (income, age, and education).

Measures of consumers' purchasing power. Consumers who get better "deals" in buying a used car should pay a relatively lower price for a given car and should incur relatively lower repair costs after purchase. Based on this reasoning, two aspects of the success of consumers' purchases were used as measures of purchasing power.

- Relative price paid. Two price indices were used to represent the price paid relative to an estimate of "fair" value:[3]

$$\text{Price Index I} = \frac{\text{Purchase Price Paid}}{\text{Blue Book Price}}$$

$$\text{Price Index II} = \frac{\text{Price Paid + Repair Costs in First 3 Months}}{\text{Blue Book Price}}$$

The reasoning underlying these indices is that a person paying $400 for a car with a suggested price of $500 in the Blue Book receives a better deal than a person paying $1100 for a car listed at $1000 assuming that other things such as car condition is approximately average for each vehicle. These indices have the additional advantage of being comparable over different time periods regardless of the level of inflation in car prices over time.

- Unanticipated repair costs. Two variables represented unanticipated repair costs. Consumers were asked to report repair costs in the first three months after purchase for defects they were unaware of at the time of purchase. One variable was simply coded "1" if any such costs were incurred and "0" otherwise. The second variable, relative repair costs,

was the ratio of unanticipated repair costs to total purchase and repair expenditures including repair of defects known before purchase.

Measures of other behavior and experiences. Seven other dependent variables which assessed buyer attitudes toward the purchase, knowledge about the product, and experiences with defects and complaining were investigated: buyer dissatisfaction and belief that something was misrepresented, buyer awareness of any defects before purchase, voicing of complaints to sellers, and complaint success.

- Dissatisfaction with purchase. Consumer dissatisfaction was measured by summing respondents' ratings on a five-point Likert scale of agreement with three statements.[4] A very dissatisfied buyer would register the maximum score of 15, while a very satisfied one would score 3. The mean score of 6.1 indicates that the average buyer was more satisfied than not.

- Anything misrepresented? Respondents were asked if they believed the seller misrepresented or failed to disclose important facts relating to mechanical defects, prior history of the vehicle, or seller's responsibility for making repairs after sale. A dummy variable was coded "1" if anything was reported to be misrepresented and "0" if not.

- Aware before purchase of defect? A dummy variable was coded "1" if the respondent reported being aware of any defects in the used car before purchasing it and "0" if not.

- Discover defect after purchase? A dummy variables was again coded "1" if the respondent reported discovering any defects after purchasing the car and "0" if not.

• Voice complaint? This variable indexed whether the buyer who discovered a defect after purchase then recontacted the seller to complain. A dummy variable was coded "1" if the buyer who discovered the defect after purchase then recontacted the seller and "0" if not.

• Complaint resolution. Two variables were used to assess complaint resolution. First a "success scale" was constructed with "1" indicating the buyer paid or the defect was not corrected, "2" if the buyer and seller shared repair costs, and "3" indicating the seller paid for repairs. Second, a dichotomous variable was coded "1" if a buyer who had voiced a complaint paid for any unanticipated repairs within three months of purchase and "0" if not.

Independent variables: Markets, product characteristics, buyer demographics.

• Markets. Four dichotomous variables specified the used car buyer population sampled: Wisconsin pre- and post-law, Iowa, and Minnesota. The Wisconsin post-law variable was deleted from the regression models so that the coefficients of the remaining three test for differences from that population. Another dummy variable indicated whether the buyer purchased from a dealer (coded "1") or from a private seller (coded "0").

• Product characteristics. Two product characteristics were included as independent variables: purchase price and car age. Price was coded in thousands of dollars and car age in years.

• Buyer characteristics. Three consumer demographics were included as independent explanators: income, age, and education. Respondents assigned themselves to a category in an ordianl scale for each dimension.[5] The income scale has five categories, the age scale six, and the education scale four.

Analysis Models

Linear regression models were used to examine the effects of the above variables on consumers' purchasing power, behavior, and experiences. Two models were estimated for each dependent variable. Model A included only the dichotomous market structure variables and the buyers' characteristics--income, age and education. This model assessed the total impact of income and other buyer demographics and of the markets. Model B, which also included the product characteristics, tested the "separate products" argument by estimating effects of Model A's variables controlling for the effects of price and vehicle age. For example, income may be expected to affect buyers' experiences indirectly through the limits it sets on purchase price and consequently car age--this is the essence of the "separate products" reasoning.[6] Income may also have direct effects independent of product characteristics in which case it could be concluded that some income groups were advantaged or disadvantaged in some way not attributable to product differences.

3. THE POOR PAY MORE FOR THE SAME USED CAR

Two measures of purchasing power--Price Index I and II--were analyzed first to determine whether the poor do pay more for used cars. The price indices measure expenditures relative to Blue Book value: Index I is the ratio of purchase price to Blue Book price and Index II differs only in including repair costs with purchase price in the numerator. Both indices were related in similar ways to indepedent variables (see Table 1). Iowans and those buying from dealers paid more (about 6% and 13% respectively),

Table 1

Regression Coefficients for Two Measures of Purchasing Power[1]

Independent	Price Index I[2]		Price Index II[3]	
	A	B	A	B
Market Structure				
Wisconsin Post-Law (constant term)	.828***	.378***	.879***	.407***
Wisconsin Pre-Law	.047 (.061)	.122*** (.157)	.037 (.040)	.113*** (.122)
Minnesota	.030 (.049)	.013 (.022)	.064** (.088)	.044 (.060)
Iowa	.091*** (.131)	.059** (.085)	.098*** (.118)	.069** (.084)
Dealer	.176*** (.311)	.129*** (.229)	.126*** (.188)	.093*** (.138)
Buyer Characteristics				
Income (1-5)	-.006 (-.027)	-.018** (-.084)	-.009 (-.036)	-.018* (-.070)
Age (1-6)	.002 (.014)	.004 (.026)	.006 (.031)	.009 (.044)
Education (1-4)	-.001 (-.001)	-.001 (-.002)	.003 (.008)	.003 (.010)
Product Characteristics				
Purchase Price ($1000's)		.139*** (.700)		.127*** (.535)
Car Age (years)		.055*** (.434)		.061*** (.405)
R^2	.111	.311	.045	.156
Dependent Variable:				
Mean	.971		1.003	
Std. Dev.	.254		.302	

Notes to Table 1:

*Significant beyond .10 level.

**Significant beyond .05 level.

***Significant beyond .01 level.

[1]Each index is a ratio of expenditures to Blue Book value. The Blue Book estimate is collected for cars less than eight years old. N = 636.

[2]Expenditures include purchase price only.

[3]Expenditures include purchase price and anticipated and unanticipated repair costs.

Standardized regression coefficients are in parentheses.

relative to Blue Book value than did Wisconsin post-law buyers and private market buyers.[7] When product characteristics were included (Model B), two key results were obtained. First, Wisconsin pre-law buyers were found to pay relatively more (about 12%), suggesting an overall beneficial effect of the disclosure law. Second, buyers' income has a direct negative effect on the price indices.

The income effect requires some elaboration. Income may be expected to have indirect effects on the Price Indices through its positive relation with purchase price (r=.157) and through its negative relation with car age (r=-.130) via purchase price. Both product characteristics have net positive effects on the Price Indices: Buyers who pay more (by definition) or who purchase older cars seem to obtain less value relative to Blue Book prices. The indirect effects of income via product characteristics are contradictory: Higher income buyers do less well to the extent that they spend more while lower income buyers do less well because they purchase older cars. Net of these indirect effects, income has a further negative direct effect on the Price Indices. Thus, after product characteristics are controlled, low-income buyers seem to suffer additional purchasing power disadvantages amounting to about 2% of Blue Book value for each decrement in the income scale. Buyers with incomes under $6000 paid about 10% more for the same product value as buyers with incomes over $24,000.

Is this income disadvantage different in different markets? Table 2 reports coefficients for interaction terms between income and the market variables. In no case do these effects contribute significantly to the explained variation in the price indices. The disadvantage of poorer consumers appears to be constant across the states sampled and between the dealer and private seller markets.

Table 2

Partial Regression Models Which Include the Interaction of Income and Markets

Independent[1]	State Markets Price Index		Dealer/Private Market Price Index	
	I	II	I	II
Income	-.022** (-.105)	-.026* (-.100)	-.006 (-.031)	-.005 (-.020)
Wisconsin Pre-Law	.015 (.020)	-.004 (-.004)		
Minnesota	-.032 (-.053)	-.027 (-.037)		
Iowa	.096 (.138)	.090 (.109)		
Income X Wis. Pre-Law	.039 (.148)	.042 (.136)		
Income X Minnesota	.016 (.082)	.025 (.106)		
Income X Iowa	-.013 (-.059)	-.007 (-.028)		
Dealer			.175*** (.310)	.144** (.213)
Income X Dealer			-.016 (-.101)	-.018 (-.094)
Increment to R^2	.004	.004	.001	.001
Joint F-test	$F_{3,623}$=1.40 P < .242	$F_{3,623}$=.97 P < .406	$F_{1,625}$=1.05 P < .306	$F_{1,625}$=0.74 P < .390

*Significant beyond .10 level.

**Significant beyond .05 level.

***Significant beyond .01 level.

[1]The independent variables whose coefficients are not shown here had effects very similar to those reported in Table 1.

[2]The increment reflects only the effect of the interaction term(s).

Stnadardized regression coefficients are in parentheses.

These results strongly indicate that price discrimination against the poor is not an artifact of product characteristics although it is compounded by the poor buying somewhat older vehicles. No tendency was found for the poor to buy disproportionately in the dealer or private markets, which indicates that, if there are market differences which explain price discrimination, they don't correspond to the dealer/private-seller dimension. Finally, the observed income effect was not modified in any of the states or in private or dealer markets, indicating that Wisconsin's disclosure law did not increase or decrease the observed disparity in purchasing power between income groups.

The Poor Pay More for Post-Purchase Repairs

A separate analysis of repair costs indicated that the poor also have disadvantages after purchase. The first issue examined was whether defects discovered after purchase were serious enough to necessitate some repair expenditures within three months of purchase. This is a further indicator of purchasing power in that the real value is affected by the costs of repairs that must be made immediately after purchase.

Overall, 46% of respondents reported finding defects in their cars after purchase. Forty percent of these buyers then paid for some repairs. However, this proportion ranged from 44% of the lowest income buyers to only 26% of buyers in the highest income category. Table 3 shows the models predicting, first, whether those who discovered defects actually paid to have them corrected. Not surprisingly the best predictor was the age of the car (Model B) which seems to account for lower repair incidences among higher income buyers and those buying from dealers (Model A). In this instance the disadvantage of the poorer consumer is attributable to their purchase of older vehicles.

Table 3

Regression Coefficients for Unanticipated Repair Costs

Independent	Any Repair Costs?[1]		Relative Repair Costs[2]	
	A	B	A	B
Market Structure				
Wisconsin Post-Law (constant term)	.731***	.412**	.184***	.082**
Wisconsin Pre-Law	-.057 (-.037)	-.030 (-.020)	.002 (.006)	.009 (.028)
Minnesota	-.047 (-.042)	-.073 (-.065)	.004 (.020)	-.016 (-.070)
Iowa	.068 (.052)	.062 (.048)	-.011 (-.046)	-.010 (-.041)
Dealer	-.121** (-.114)	-.023 (-.022)	-.060*** (-.299)	-.034** (-.170)
Buyer Characteristics				
Income (1-5)	-.051** (-.122)	-.034 (-.081)	-.015** (-.177)	-.011* (-.128)
Age (1-6)	-.014 (-.040)	-.007 (-.020)	.001 (.001)	.001 (.022)
Education (1-4)	-.025 (-.042)	-.022 (-.038)	-.008 (-.066)	-.008 (-.069)
Product Characteristics				
Purchase Price ($1000's)		.001 (.002)		(3)
Car Age (years)		.034*** (.218)		.012*** (.389)
R^2	.020	.050	.083	.198
Dependent Variable:				
Mean	.402		.086	
Std. Dev.	.491		.097	

Notes to Table 3

*Significant beyond .10 level.

**Significant beyond .05 level.

***Significant beyond .01 level.

[1]The models estimate the probability of having incurred unanticipated repair costs within three months of purchase. Subsample is those reporting some defect discovered after purchase. N = 388.

[2]The models estimate the ratio of unanticipated repair costs to total purchase and repair expenditures. Subsample is those with non-zero unanticipated repair costs. N = 156.

[3]Purchase price is deleted because it is a major component of the denominator.

Standardized regression coefficients are in parentheses.

Table 3 also shows coefficients for models predicting the ratio of repair costs to total expenditures. Purchase price was deleted from Model B because it is a major component of total expenses. In contrast to the previous dependent variable, car age (and its presumed association with serious defects) does not account for all of the effects of income and the dealer market. Independent of vehicle age, lower income buyers and private market buyers spend relatively more of their total expenditures for unanticipated repair costs.

Why then do the poor pay more? The "separate markets/products" argument does not explain the weaker purchasing power of the poor. Car age does not account for it and, as for the price indices, the income effects were found to be the same in all markets. The disadvantage of private market buyers, aside from the older mean age of private market cars, may be due to the lack of recourse available to them when defects are discovered. But low-income buyers do not participate in the private market more than other buyers. Separate markets and different products do not explain all of the effects of income on purchasing power.

The market rationality hypotheses suggest a number of other possibilities. Are the poor simply less aware of defects at the time of purchase than the non-poor? Are they more complacent about defects than upper-income groups? Do they complain less or with less effectiveness?

4. DIFFERENCES BETWEEN THE POOR AND NON-POOR CANNOT BE EXPLAINED BY THE MARKET IRRATIONALITY OF THE POOR

The essence of the "market irrationality" argument is that the market will only be efficient if purchasers are aware of defects that

lower the true value of their purchases, if they are dissatisfied when such defects are discovered after purchase, and if they voice those complaints to the seller. It has been assumed by many that the poor are more likely than the non-poor to fail to perceive defects, fail to be as upset by such defects, and not voice complaints about such defects. Each of these aspects of buyer behavior will be examined to see if the poor possibly pay more because of such market irrationality.

Perception of Defects Before and After Purchase

About 43% of all buyers reported being aware of a defect before purchasing their car. We found that younger buyers and Minnesota buyers were more likely to be aware of a defect (see Table 4, Model A, "Aware Before"). Buyers in the dealer market were less likely to be aware of any defects apparently because the costlier cars traded in that market have fewer defects or ones that are better concealed (Model B). It is noteworthy that no differences in defect awareness were detected between the pre- and post-disclosure law by Wisconsin buyers. Improved disclosure may have been offset by anticipatory repairs. The key finding, however, is the absence of any direct or indirect income effects. Low-income buyers are neither more nor less aware of defects before purchasing.

Forty-six percent of the respondents reported discovering a defect after they purchased their car. Younger buyers again were more likely to note defects. However in contrast to the pre-purchase situation, buyers in the dealer market were much more likely to find defects after purchase, and product characteristics did not account for any variation in post-purchase defect discovery. Again, no difference was found between

Table 4

Regression Models for Probabilities that Buyer Was Aware of a Defect Before Purchase and that Buyer Discovered a Defect After Purchase

Independent	Aware Before?[1]		Discover After?[2]	
	A	B	A	B
Market Structure				
Wisconsin Post-Law (constant term)	.509***	.473***	.337	.294***
Wisconsin Pre-Law	-.048 (-.030)	-.050 (-.031)	.040 (.025)	.046 (.029)
Minnesota	.151*** (.133)	.135*** (.119)	.029 (.026)	.028 (.024)
Iowa	-.007 (-.005)	-.008 (-.006)	.029 (.022)	.026 (.019)
Dealer	-.098*** (-.097)	-.025 (-.025)	.176*** (.172)	.174*** (.171)
Buyer Characteristics				
Income (1-5)	.001 (.001)	.014 (.034)	-.003 (-.008)	-.004 (-.010)
Age (1-6)	-.033*** (-.093)	-.029** (-.083)	-.029** (-.083)	-.029** (-.082)
Education (1-4)	.013 (.022)	.016 (.028)	.031 (.054)	.031 (.053)
Product Characteristics				
Purchase Price ($1000's)		-.058*** (-.155)		.013 (.034)
Car Age (years)		.006 (.042)		.004 (.029)
R^2	.040	.067	.028	.026
Dependent Variable:				
Mean		.432		.458
Std. Dev.		.496		.498

Notes to Table 4

*Significant beyond .10 level.

**Significant beyond .05 level.

***Significant beyond .01 level.

[1]Model estimates probability that buyer reports being aware of any defects before purchase. N = 844.

[2]Model estimates probability that buyer reports discovering defects after purchase. N = 844.

Standardized regression coefficients are in parentheses.

the Wisconsin pre- and post-law buyers. No income effect was found, suggesting that the poor are not more or less likely to find flaws after purchase. The results suggest that the weaker purchasing power of the poor is not related to lack of awareness of defects at the time of purchase or immediately after purchase.

The Poor and the Degree of Dissatisfaction

The data so far confirm that, on the basis of objective indicators of value received, the poor have more reason to be dissatisfied with their purchase. But the market-rationality argument suggests that the poor will probably have lower expectations and therefore not be as dissatisfied as the objective disparities would suggest. Our data indicate to the contrary that the poor are in fact more dissatisfied than the non-poor and also are more likely to believe that something was misrepresented.

Table 5 shows that buyer dissatisfaction and perceived misrepresentation have similar relations with the independent variables. Poorer, younger, and dealer-market buyers are all more likely both to be dissatisfied and to believe the seller misrepresented the mechanical condition or prior history of the car or the seller's post-purchase responsibility. None of these relations are attributable to product characteristics since price and car age have no impact on the dependent variables. The dealer/private-market difference may be due to buyers in the dealer market having worse experiences, higher expectations, or both. In any case, additional analysis indicated that the income effects were invariant in the dealer and private markets and across the states.

Table 5

Regression Coefficients for Dissatisfaction Index and Perceived Misrepresentation

Independent	Dissatisfaction Index[1]		Anything Misrepresented?[2]	
	A	B	A	B
Market Structure				
Wisconsin Post-Law (constant term)	6.729***	7.221***	.281***	.257***
Wisconsin Pre-Law	.139 (.014)	.069 (.007)	-.017 (-.012)	-.012 (-.009)
Minnesota	-.027 (-.004)	-.012 (-.002)	-.008 (-.008)	-.005 (-.005)
Iowa	.169 (.020)	.205 (.024)	-.044 (-.039)	-.046 (-.041)
Dealer	.804*** (.125)	.862*** (.135)	.164*** (.190)	.143*** (.166)
Buyer Characteristics				
Income (1-5)	-.303*** (-.110)	-.287*** (-.108)	-.018 (-.049)	-.022* (-.062)
Age (1-6)	-.239 (-.109)	-.240*** (-.109)	-.048*** (-.161)	-.048*** (-.164)
Education (1-4)	.125 (.034)	.125 (.034)	.010 (.022)	.010 (.021)
Product Characteristics				
Purchase Price ($1000's)		-.184 (-.079)		.026 (.081)
Car Age (years)		-.048 (-.050)		.002 (.012)
R^2	.035	.035	.053	.055
Dependent Variable:				
Mean	6.149		.229	
Std. Dev.	3.122		.420	

* Significant beyond .10 level.
** Significant beyond .05 level.
*** Significant beyond .01 level.

Standardized regression coefficients are in parentheses.

[1] The index is the sum of responses to three attitudinal items with a high score indicating greater dissatisfaction. Scale range is 3 to 15. N = 852.

[2] Model estimates probability that buyer reported something was misrepresented. N = 861.

Complaint Voicing and Resolution

If the poor do not find more defects after purchase and are as capable as other income groups in detecting defects before purchase, what would explain their higher relative repair costs, lower purchasing power, and greater dissatisfaction? It is possible that they are less aggressive in pursuing complaints or have less effective bargaining skills. While we cannot test the bargaining skills hypothesis,[8] we can examine complaint voicing and dispute resolution. Because private market sellers offer no warranty or guarantee and very few private market buyers complain about defects (23% of those discovering defects), we limited this inquiry to the dealer-market buyers.

Complaint voicing. Of those who discovered a defect after purchase, 60.4% recontacted the dealer to complain (Table 6). Older buyers and Iowans, who may have been stimulated by their mandatory post-purchase safety inspections, were more likely to complain. Overall there are no income differences in the rates of complaint voicing (Model A); however, when the depressing effect of car age on complaining is included (Model B), the poor are found to actually complain at higher rates. Lower income buyers are not more complacent about defects once the general tendency to complain less about older cars is taken into account.

Complaint resolution. Who are the successful complainers? We used two measures of complaint resolution. The first was a three-point "success scale" indicating whether the seller paid none, some, or all defect repair costs. Its best single predictor is income (r=.330). The positive effect of income on the success scale is entirely direct: the moderate correlations between the success scale and purchase price (.185) and

Table 6

Regression Coefficients for Complaint Voicing and Complaint Resolution Measures, Dealer Market Only

Independent	Voice Complaint?[1]		Success Scale[2]		Any Repair Costs?[3]	
	A	B	A	B	A	B
Market Structure						
Wisconsin Post-Law (constant term)	.594***	1.078 ***	1.480 ***	1.461 ***	.665 ***	.439 *
Wisconsin Pre-Law	.037 (.024)	-.047 (-.030)	.048 (.017)	.076 (.027)	.032 (.021)	.063 (.041)
Minnesota	.086 (.070)	.099 (.081)	-.166 (-.079)	-.182 (-.086)	-.018 (-.016)	-.026 (-.022)
Iowa	.158 * (.126)	.166 ** (.132)	-.074 (-.036)	-.084 (-.040)	.164 * (.144)	.151 (.133)
Buyer Characteristics						
Income (1 - 5)	-.014 (-.033)	-.044 * (-.104)	.234 *** (.317)	.212 *** (.287)	-.085 *** (-.209)	-.058 * (-.143)
Age (1 - 6)	.041 * (.124)	.034 * (.102)	.085 * (.149)	.078 * (.136)	-.027 (-.086)	-.022 (-.073)
Education (1 - 4)	-.042 (-.069)	-.035 (-.057)	-.060 (-.055)	-.055 (-.051)	-.028 (-.047)	-.046 (-.077)
Product Characteristics						
Purchase Price ($1000's)		-.044 (-.116)		.064 (.095)		-.007 (-.018)
Car Age (years)		-.068 *** (-.354)		-.014 (-.035)		.052 * (.238)
R^2	.018	.078	.104	.107	.048	.096
Dependent Variable: Mean		.604		2.140		.333
Std. Dev.		.490		.866		.473

Notes to Table 6

*Significant beyond .10 level.

**Significant beyond .05 level.

***Significant beyond .01 level.

[1]Models estimate probability that buyer recontacted seller to complain. Subsample is those discovering a defect after purchase. N = 268.

[2]Indicates buyers' degree of complaint success. Subsample is those voicing complaint to dealer. N = 157.

[3]Models estimate probability that buyer paid for any unanticipated repairs. Subsample is those voicing complaint to dealer. N = 162.

Standardized regression coefficients are in parentheses.

car age (-.208) were found to be spurious (Model B, "Success Scale"). The second measure indicates whether any money had been spent on repairs by those who complained to the seller about defects. About two-thirds of all complainers report spending no money for repairs in the first three months--either the dealer paid or repairs were deferred by these buyers. The probability that the buyer paid anything for repairs shortly after purchase is increased by .085 for each step down the five-step income scale. Part of this income effect is indirect because of the tendency for owners of older cars to be more likely to ultimately pay for repairs themselves. That tendency also entirely accounts for the greater complaint success enjoyed by purchasers of costlier cars. Nonetheless, most of the income effect is again direct; product characteristics do not explain the disadvantages of the poor in complaint resolution.

In addition to having lower incomes, the less successful complainers may be younger ("Success Scale") and Iowans ("Any Repair Costs"). The latter were also more likely to complain. The independent safety inspections in Iowa may provide impetus to complain without ammunition to do so effectively; however, the inspections also may cause repair costs to be incurred sooner.

5. CONCLUSION

Lower income buyers in the used motor vehicle market seem to suffer from price discrimination, relatively greater repair costs, and less successful complaint resolution. Contrary to hypotheses that the poor have less "market rationality" than the non-poor, we found that:

(1) the poor's subjective satisfaction reflects their objective disadvantages; (2) the poor detect defects before purchase as often as do the non-poor; (3) the poor discover as few or as many defects after purchase as do the non-poor; and (4) the poor complain about such defects at even higher rates than do others. An alternative hypothesis is a "separate products" argument which attributes disadvantages of low-income consumers to the less expensive and lower quality goods which their limited resources dictates. However, we found that such product attributes accounted only for the relation between income and whether any unanticipated repair costs were incurred. Observed effects of income on other aspects of purchase experiences were only partially, if at all, attributable to product characteristics. Additional analysis failed to detect any differences in the observed income effects across the market populations sampled and between the dealer and private markets despite differences in the structure and organization and in the legal and economic environments of these markets.

This last finding indicates that Wisconsin's disclosure law--one key legal difference between these markets--did not increase or decrease the relative disadvantage of the poor. One goal of consumer protection law ought to be to eliminate any special disadvantages which the poor encounter in consumer markets. Since conventional explanations of the inadequacy of disclosure as a policy to benefit the poor are insufficient, these conclusions point to the need for more research on the causes of price discrimination and for more attention to the problems of the poor in the design and implementation of consumer protection laws.

We need to understand why the poor <u>do</u> pay more in this and other important consumer markets. We have looked at what consumers do in

the marketplace and have failed to find any differences between the way the poor and the non-poor approach the purchase of a car and post-purchase disputes. Further analysis of consumer behavior is necessary to determine if other aspects of this behavior not yet analyzed help explain price discrimination. Some possible areas of purchasing behavior disparities between income groups are the sources of information consulted in a purchase decision (mechanic, friend, etc.), the purchase criteria influencing the decision (mechanical condition, style, price, warranty), the impact of credit availability and arrangements, and bargaining strategies or tactics.

Moreover, the analysis should be expanded to include sellers' behavior. The survey did not allow our determining whether the poor are disadvantaged among all sellers or whether a subset who deal primarily with low-income buyers manage to charge higher prices than other sellers of similar vehicles. If the income effects occur across all sellers, it may be because sellers treat the poor and non-poor differently or because of characteristics of the poor themselves such as a lack of bargaining skills. It is possible that a few "rotten dealers" consciously seek out and exploit poor consumers. They may offer better credit terms but charge higher prices and be less responsive to complaints. In this case, disclosure regulation as a strategy for giving leverage to the low-income consumer would be misplaced. It may only increase restrictions on decent dealers who would abide by the law to maintain their reputation while rotten dealers would continue to ignore legal regulations in all but the most symbolic ways.

The "separate markets" hypothesis could not be completely examined. The findings indicated that the poor do not buy disproportionately in the private or dealer markets and that price and dispute resolution discrimination cannot be explained by product characteristics. Further evaluation of sellers and buyers is needed before the causes of income-related disadvantages can be identified.

Such research should help to design consumer protection systems which will deal more specifically with the problems of the poor. The original CPR study indicated that the Wisconsin disclosure law worked through four mechanisms: buyer use of disclosure information about defects in pre-purchase negotiations; buyer use of the disclosure statement in post-purchase disputes; intervention by motor vehicle inspectors in post-purchase disputes; and anticipatory repairs by dealers who corrected defects before sale.

We have shown that while such a disclosure law in the used car industry may have yielded benefits for consumers overall, it did not reduce price discrimination against the poor. It is unclear how a regulatory scheme could be devised to achieve that goal. Such "fine tuning" might include:

- better techniques for disclosure itself;
- more efforts to educate consumers in the use of disclosure data and dispute resolution mechanisms;
- more effective resolution systems to encourage settlement of post-purchase disputes; and
- special targeting of dispute resolution and other regulatory techniques on the poor and those who sell to poor consumers.

However, it may be that more substantial alteration in consumer protection laws is needed if the special disadvantages of poor consumers are to be alleviated.

APPENDIX A

Sampling Procedure

The two Wisconsin samples were selected from the state's motor vehicle title file. Microfilms were selected on a 30 to 40 day interval during each of the two-year periods sampled. After a random start, every fifth name was systematically chosen. Where information was illegible or incomplete the next usable title was substituted.

The Iowa sample was drawn from the state's license file which was organized by county. The sampling was conducted on a non-proportionate basis in which counties with higher population concentrations were given greater emphasis. Iowa's state license file uses certain sets of letters for given counties followed by a standard numbering system. Within each letter group, titles were separated into groups of 100. The groups were randomly selected and every fifth title transfer was selected until the county's quota was reached.

The Minnesota sample was selected from the state's motor vehicle title file on microfilm. Separately coded titles designated vehicles involved in transfers. These vehicles were identified by license plate numbers which were selected systematically after a random start. The resulting sample of plates were then submitted to a state-wide data bank which contains the information about the car and its previous owner.

A separate questionnaire and cover letter were mailed to each of the four samples of consumers. The response rates were as follows:

	N	Percent Returned
Wisconsin Pre-law	240	20.8%
Wisconsin Post-law	438	31.9
Iowa	232	20.2
Minnesota	302	22.7

Eighty consumers from the pre-law sample filled out the questionnaire on a used motor vehicle purchased subsequent to the law. These returns were included in the post-law sample for analysis purposes.

NOTES

[1]Some critics of regulatory agencies protecting consumers, e.g. Stigler (1975, pp. 178-188), argue that self-interest and competition are the only real protections for consumers and that regulation does not benefit consumers "given the nature of our political process, which allows compact groups with substantial per capita interests to win out over diffused masses of consumers" (1975, p. 187). It is unclear how such critics would view disclosure regulation which seeks to enhance some market mechanisms. The characterization of the political process no doubt accounts for some of the popularity of disclosure over more interventionist strategies. However, we view as problematic the accompanying assertion that consumers' problems are mainly attributable to "suckers" and "rogues" (1975, p. 179), and this study provides a partial test of that hypothesis. In any case, the consumers' resources of individual intelligence (caveat emptor) and market competition (1975, p. 178) are not evenly distributed across markets. The presumptions that resulting consumer disadvantages are wholly inevitable and that any regulatory cure is worse than any market's diseases are, we maintain, also problematic and require empirical study rather than polemical assertion or denial.

[2]Steele (1977) has classified methodologies of dispute studies into "institutional" and "individual" approaches. The institutional approach focuses on institutions which process disputes: courts, state regulatory agencies, ombudsmen. The individual approach begins with a population of consumers and examines the distribution of problems and consumers' responses to them. This study falls in the latter tradition. However,

one conclusion we reach is the need for study of dispute processes with the seller as a unit of analysis. This implies an extension of institutional concerns to sellers and points to the complementary nature of the two methodologies.

[3]The price paid was determined by asking the buyer, "How much did you pay for this most recently purchased used motor vehicle? (Include any trade-in allowance in the price you paid.)" Therefore this price paid is the cash a consumer paid plus any trade-in allowance but excluding finance charges. The Blue Book is actually the Wisconsin Automobile Valuation Guide prepared by National Market Reports, Inc., Chicago.

[4]The statements which formed the dissatisfaction scale are: (1) If I had to make the decision again knowing what I know now, I would still purchase this particular used motor vehicle; (2) I have not spent too much on repairs since purchasing the vehicle; and (3) Overall, I am very satisfied with my decision to purchase this particular used motor vehicle.

[5]The scales were coded as follows:

Value Coded	Income	Age	Education
1	less than $6000	16 to 24 years	grade school
2	$6000 to $12,000	25 to 34	high school
3	$12,000 to $18,000	35 to 44	some college
4	$18,000 to $24,000	45 to 54	college graduate
5	over $24,000	55 to 64	
6		65 and over	

[6]The zero-order correlations between income and purchase price vary from .1 to .2 and those between income and car age from -.1 to -.2, depending on the subsample relevant to a particular dependent variable. The strong association between price and car age (r of about -.7) may raise problems associated with multicolinearity. However further analysis indicated that the estimated effects of these variables were not distorted in direction or strength by their association.

[7]Interaction terms testing for different dealer/private market effects in the different states indicated that those effects were not significantly different from the overall dealer/private effect. The same results were obtained subsequently for the other dependent variables.

[8]It is noteworthy, however, that buyers' education was not significantly related to any dependent variable.

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